

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in this application:

Claim 1 (currently amended): A method of ~~optical communication using~~ suppressing noise in a multimode fibre between first light waves representing electrical baseband signals and second light waves representing electrical signals modulated onto an RF carrier, the baseband and modulated carrier signals being simultaneously transmitted over the fibre, the method comprising:

~~using one or more optical radiation transmitters, coupling optical radiation~~ the first and second light waves into the multimode fibre using a launch technique which restricts the number of excited propagation modes excited within the fibre such that background noise is suppressed in the demodulated signals, wherein the, or each, optical radiation transmitter is a single- or multi- transverse mode laser transmitter driven by a combination of modulated radio frequency signals and/or baseband signals.

Claim 2 (previously amended): The method of Claim 1, where the coupling step comprises a launch which is co-linear but at an offset to the fibre axis.

Claim 3 (previously amended): The method of Claim 1, wherein the or each optical radiation transmitter has a linear frequency response whereby it is responsive to both base band and RF inputs.

Claim 4 (currently amended): An optical communication system using a multimode fiber, the system comprising:

a receiver for receiving electrical baseband signals and electrical signals modulated onto an RF carrier for simultaneous transmission over the multimode fiber;
a multiplexer for combining the signals together;
a transmitter for transforming the combined signals into optical signals; and
a coupler for coupling the optical signals into the fibre using a technique which restricts the number of excited propagation modes within the fibre, whereby noise due to simultaneous transmission is suppressed.

~~one or more optical radiation transmitters;
a means of coupling optical radiation from the, or each, optical radiation transmitter into
a multimode fibre using a launch which restricts the number of modes excited in
the fibre such that background noise is suppressed in the demodulated signals; and
a photodetector; wherein the, or each, optical radiation transmitter is a single or multi-
transverse mode transmitter arranged to couple transmission signals into the
multimode fibre which signals are combinations of modulated radio frequency
signals and baseband signals.~~

Claim 5 (currently amended): The optical communication system of Claim 4, where the ~~means of coupling light into the fibre~~ fibre coupler produces a launch which is co-linear but at an offset to the fibre axis.

Claim 6 (previously amended): The optical communication system of Claim 5, wherein the multimode fibre has a core diameter of 62.5µm and where the offset distance measured from the centre of the multimode fibre core to the centre of the optical radiation emitted from the transmitter is from approximately 10 µm to approximately 25 µm.

Claim 7 (cancelled).

Claim 8 (cancelled).

Claim 9 (cancelled).

Claim 10 (cancelled).

Claim 11 (cancelled).

Claim 12 (cancelled).

Claim 13 (cancelled).

Claim 14 (cancelled).

Claim 15 (previously presented): The optical communication system of claim 4 which employs multimode fibre splitters to split the optical signal on a single multimode fibre to multiple multimode fibres for onward transmission.

Claim 16 (previously presented): The optical communication system of claim 4 which employs multimode fibre combiners to combine the optical signals on multiple multimode fibres onto a single or multiple multimode fibres for onward transmission.

Claim 17 (cancelled).

Claim 18 (cancelled).

Claim 19 (cancelled).

Claim 20 (cancelled).

Claim 21 (cancelled).

Claim 22 (cancelled).

Claim 23 (cancelled).

Claim 24 (new): The method of claim 1 further comprising receiving the electrical baseband signals and the electrical signals modulated onto an RF carrier, and transforming them into optical radiation using one or more optical radiation transmitters.

Claim 25 (new): The optical communication system of claim 4 further comprising at least one opto-electrical device for transforming the optical signals to the electrical domain.